COSEWIC Annual Report

presented to

The Minister of the Environment

and

The Canadian Endangered Species Conservation Council (CESCC)

from

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

2011-2012

COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

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ITEM I – COSEWIC ACTIVITIES

1. Wildlife Species Assessment Meetings:

Section 15 (1) of the *Species at Risk Act* (SARA) states: "The functions of COSEWIC are to (*a*) assess the status of each wildlife species considered by COSEWIC to be at risk and, as part of the assessment, identify existing and potential threats to the species and

(i) classify the species as extinct, extirpated, endangered, threatened or of special concern,

(ii) indicate that COSEWIC does not have sufficient information to classify the species, or

(iii) indicate that the species is not currently at risk".

Under Canada's *Species at Risk Act* (SARA), the foremost function of COSEWIC is to "assess the status of each wildlife species considered by COSEWIC to be at risk and, as part of the assessment, identify existing and potential threats to the species".

COSEWIC held two Wildlife Species Assessment Meetings in this reporting year (September 1, 2011 to September 30, 2012) from November 21 to 25, 2011 and from April 29 to May 4, 2012. On February 3, 2012, an Emergency Assessment Subcommittee of COSEWIC also assessed the status of the Tri-colored Bat (*Perimyotis subflavus*), the Little Brown Myotis (*Myotis lucifugus*), and the Northern Myotis (*Myotis septentrionalis*). During the current reporting period COSEWIC assessed the status or reviewed the classification of 67 wildlife species.

The wildlife species assessment results for the 2011-2012 reporting period include the following:

Extinct:	1
Extirpated:	4
Endangered:	29
Threatened:	10
Special Concern:	15
Data Deficient:	2
Not at Risk:	6
Total:	67

Of the 67 wildlife species examined, COSEWIC reviewed the classification of 49 species that had been previously assessed. The review of classification for 26 of those species resulted in a confirmation of the same status as the previous assessment (see Table 1a).

Table 1a. Confirmation of status for species previously assessed:

ENDANGERED	EXTIRPATED	THREATENED	SPECIAL CONCERN
1. Bearded Owl–clover	1. Incurved Grizzled Moss	1. Haller's Apple Moss	1. Blackstripe Topminnow
2. Bluehearts	2. Pacific Gopher Snake	2. Marbled Murrelet	2. Coastal Tailed Frog
3. Blue Racer	3. Pacific Pond Turtle		3. Mountain Beaver
4. Blue Whale (Atlantic population)			4. Weidemeyer's Admiral
5. Blue Whale (Pacific population			
6. Enos Lake Benthic Threespine Stickleback			
7. Enos Lake Limnetic Threespine Stickleback			
8. False Hop Sedge			
9. Heart-leaved Plantain			
10. Hoary Mountain-mint			
11. Island Blue			
12. Large-whorled Pogonia			
13. Margined Streamside Moss			
14. Northern Madtom			
15. Silver Hair Moss			
16. Snuffbox			
17. Yellow-breasted Chat *auricollis* subspecies (Southern Mountain population)			

With the transmission of this report, COSEWIC provides assessments (see Table 1b) of 29 wildlife species newly classified as Extirpated, Endangered, Threatened and Special Concern to the Minister of Environment so that he can consider whether to recommend to the Governor in Council (GIC) that they be added to Schedule 1 of SARA along with the 3 bat species recommended as Endangered following an emergency assessment by COSEWIC on February 3, 2012 (see section of report entitled "Other Species Assessment Activities").

Table 1b. Newly classified species for consideration of listing on Schedule 1 of SARA:

ENDANGERED	EXTIRPATED	THREATENED	SPECIAL CONCERN
1. Behr's Hairstreak	1. American Burying Beetle	1. American Eel	1. Baird's Sparrow
2. Leatherback Turtle (Atlantic population)		2. Black–tailed Prairie Dog	2. Buffalograss
3. Leatherback Sea Turtle (Pacific population)		3. Eastern Baccharis	3. Buff–breasted Sandpiper
4. Northern Dusky Salamander (Carolinian population)		4. Plains Minnow	4. Collared Pika
5. Okanagan Efferia		5. Pugnose Minnow	5. Goldencrest
6. Silver Chub (Great Lakes – Upper St. Lawrence populations)		6. Tiny Cryptantha	6. Grizzly Bear (Western population)
7. Smooth Skate (Funk Island Deep population)		7. Western Screech-Owl *kennicottii* subspecies	7. Hairy Prairie–clover
8. Yellow-breasted Chat *virens* subspecies		8. Western Screech-Owl *macfarlanei* subspecies	8. Magnum Mantleslug
9. Yukon Draba			9. North Pacific Spiny Dogfish
10. Little Brown Myotis			10. Smooth Skate (Laurentian-Scotian population)
11. Northern Myotis			11. Thorny Skate
12. Tri-colored Bat			

Appendix I provides the detailed results of COSEWIC's status assessment of each species, including the reasons for each designation. Status reports containing the information on which COSEWIC's status assessments are based will be available on the SARA Public Registry at the following address: www.sararegistry.gc.ca.

As of May 2012, COSEWIC's assessments include 650 wildlife species in the following risk categories: 287 Endangered, 161 Threatened, 179 Special Concern, 23 Extirpated (as well as 15 Extinct).

Also, to date, 52 wildlife species have been assessed by COSEWIC as Data Deficient and 173 wildlife species as Not at Risk.

2. Important Notes Regarding Status Assessments:

Section 27 of SARA states that the Governor in Council may, on the recommendation of the Minister, by order amend the List in accordance with subsections (1.1) and (1.2) by adding a wildlife species, by reclassifying a listed wildlife species or by removing a listed wildlife species, and the Minister may, by order, amend the List in a similar fashion in accordance with subsection (3).

Hooded Warbler (*Setophaga citrina*): This species was reassessed in May 2012 as Not at Risk. The species had been previously assessed by COSEWIC as Threatened in 2000 and is on Schedule 1 of SARA. COSEWIC recommends that the species be removed from Schedule 1 of SARA.

Eulachon (*Thaleichthys pacificus*) Nass/Skeena Designatable Unit: COSEWIC assessed three populations of Eulachon in May 2011. Based on that assessment, the committee recommended in its Annual Report to CESCC (9 September 2011) that the Nass/Skeena Eulachon population be listed as Threatened under SARA. Subsequently, information was received from the Nisga'a Lisims Government of British Columbia in a letter dated September 23, 2011 concerning the Nass/Skeena population that was not available to COSEWIC at the time of the assessment. According to Section 24 of SARA, COSEWIC must review the classification of a wildlife species, if there is reason to believe its status might have changed. At the Wildlife Species Assessment Meeting held 21-25 November 2011, COSEWIC agreed that a change in status was possible given the new information and recommended that the Nass/Skeena population of Eulachon be reassessed. COSEWIC will produce a report with the new information and following jurisdictional review, assess this population at the earliest possible opportunity.

3. Other Species Assessment Activities:

Emergency Assessments

Section 29 of SARA provides for the listing of a species based on an imminent threat to the survival of the wildlife species under an emergency basis. Section 30 (1) of SARA states that COSEWIC is to prepare a status report on the wildlife species and, within one year after the making of the order, COSEWIC must, in a report in writing to the Minister, (a) confirm the classification of the species; (b) recommend to the Minister that the species be reclassified; or (c) recommend to the Minister that the species be removed from the List.

On February 3, 2012 COSEWIC's Emergency Assessment Subcommittee conducted an emergency assessment of the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*) and the Tri-colored Bat (*Perimyotis subflavus*). The Subcommittee assessed each species as Endangered and recommended that an Emergency Order be issued placing these wildlife species on Schedule 1 of SARA, in accordance with Section 29(1).

Appendix II provides the reasons for designations and ranges of occurrence for the above species.

COSEWIC has initiated the preparation of status reports for the three bat species, in accordance with Section 30 of SARA.

4. Wildlife Species Assessments returned by the Governor in Council (GIC) to COSEWIC for further information or consideration:

Ghost Antler Lichen (*Pseudevernia cladonia*): This species was reassessed in November 2011. The species had been previously assessed by COSEWIC as Special Concern in April 2006, but referred back to COSEWIC by the GIC because new information that could change species status became available. In accordance with Section 24 of SARA, COSEWIC must review the classification of a wildlife species, if there is reason to believe its status might have changed. The Committee decided to reassess the Ghost Antler Lichen. A revised status report, which included the new information and other data that were not available at the time of the original assessment, was presented to COSEWIC in November 2011. This assessment resulted in a status of "Not at Risk".

The Humpback Whale *Megaptera novaeangliae* (North Pacific population) was assessed by COSEWIC as Threatened in May 2003 and was reassessed by COSEWIC as Special Concern in May 2011. The 2011 assessment of this species was referred back to COSEWIC by GIC on July 7, 2012.

Note: At the May, 2012 Wildlife Species Assessment Meeting of COSEWIC, a new designatable unit structure was approved for the Grizzly Bear (Ungava population and Western population). The Ungava Bay population of the Grizzly Bear was assessed as Extinct.

5. Wildlife Species Selected for Status Report Preparation:

Section 15.1 (b) of SARA states that one of the functions of COSEWIC is to"determine when wildlife species are to be assessed, with priority given to those more likely to become extinct".

Following COSEWIC's process for prioritizing species for assessment (http://www.cosewic.gc.ca/eng/sct0/appdx_e1_2_e.cfm), the following wildlife species from COSEWIC's Species Specialist Subcommittees' candidate lists were chosen by the Committee for status report commissioning. None of these species have been assessed by COSEWIC to date.

Status Reports to be commissioned in Fall, 2013

COMMON NAME OF SPECIES	SPECIES SPECIALIST SUBCOMMITTEE
1. Lake Huron Grasshopper	Arthropods
2. Quebec Rockcress	Vascular Plants
3. Erogonine Dwarf Spider	Arthropods
4. Nine-Spotted Lady Beetle	Arthropods
5. Pygmy Whitefish	Freshwater Fishes
6. Jefferson Salamander complex of unisexual populations	Amphibians and Reptiles
7. Evening Grosbeak	Birds
8. Wrinkled shingle	Mosses and Lichens
9. Sheathed Slug	Molluscs
10. Leiberg's Fleabane	Vascular Plants
11. Little Quarry Lake Benthic and Limnetic Threespine Sticklebacks	Freshwater Fishes
12. River Darter	Freshwater Fishes
13. Tortula porteri brotherus	Mosses and Lichens
14. Mountain Crab Eye Lichen	Mosses and Lichens
15. Nuttall's Sheep Moth	Arthropods

6. COSEWIC Criteria for Determining Status:

Section 15.1 (d) of SARA states that one of the functions of COSEWIC is to "develop and periodically review criteria for assessing the status of wildlife species and for classifying them and recommend the criteria to the Minister and the Canadian Endangered Species Conservation Council."

COSEWIC's quantitative criteria and guidelines for the status assessment of wildlife species are based on the IUCN Red List categories in a national context which are, from time to time, reviewed and updated.

Following a report provided by the COSEWIC Working Group, COSEWIC agreed that species status reports contain a threats assessment using the IUCN Threats Classification System or another recognized system, approved by the Species Specialist Subcommittees. The threats are to be scored using the system outlined by a guidance document and spreadsheet provided by COSEWIC.

Using a threats classification system will better identity and evaluate the levels, severity, immediacy and overall impact of threats to each species. This will improve the quality of species status reports and will help substantiate its assignments of species status.

7. Annual Subcommittee Meetings:

Aboriginal Traditional Knowledge Subcommittee

The ATK Subcommittee held three meetings over the past year, one of which included a one-day joint meeting with the National Aboriginal Council on Species at Risk (NACOSAR). The joint meeting provided an opportunity for the recently-appointed NACOSAR members to meet the Subcommittee members and be updated on the process for the incorporation of ATK in assessments by COSEWIC. Over the past year, the Subcommittee devoted considerable time and effort to the production and refinement of the COSEWIC ATK process including several decision tools and products as described below:

- Decision Matrix Tool: This tool was developed to assist in the preparation of a priority list of species and evaluates and scores species on factors such as the number of Aboriginal groups within the species distribution, size of the species distribution, accessibility of ATK, harvest significance, cultural and spiritual significance and benefit of the ATK to the species assessment.
- ATK Source Report: A report that is prepared by a contractor selected by the ATK Subcommittee and which compiles all potential sources of documented ATK for a given species and includes an analysis tool developed by the Subcommittee.
- ATK Assessment Report: A report that is prepared by a contractor selected by the ATK Subcommittee. Using the same headings as a COSEWIC status report, the report summarizes the relevant content of documented ATK sources identified in ATK Source Reports. Currently, only those ATK sources that are publicly available are being used in producing ATK Assessment Reports.
- In addition, the ATK Subcommittee intends to proceed with an ATK Gathering Project following the *COSEWIC Aboriginal Traditional Knowledge Process and Protocols Guidelines* and any applicable protocols from relevant Aboriginal communities.

ATK source reports were commissioned for American Bison (Plains & Wood), Atlantic Walrus, Beluga, Blue Ash, Butternut, Caribou, Cassin's Auklet, , Eastern Box Turtle, Green Sturgeon, Grey Whale, Grizzly Bear, Haida Gwaii Slug, Mormon Metalmark, Rainbow Trout (Alberta DU), Sockeye Salmon (Fraser River), *Seligeria careyana* (moss), Shortjaw Cisco, Snow Buckwheat, Spotted Turtle, Steller Sea Lion, White Sturgeon and Wolverine.

ATK assessment reports were commissioned for American Bison (Plains & Wood), Atlantic Walrus, Caribou, Grizzly Bear, Sockeye Salmon (Fraser River), Wolverine.

Species Specialist Subcommittees

COSEWIC's Species Specialists Subcommittees (SSCs) provide expertise to the Committee. Each SSC is led by two Co-chairs and members are experts in relevant fields, have broad knowledge and experience, and have a demonstrated knowledge of wildlife conservation. Members are drawn from universities, provincial wildlife agencies, museums, Conservation Data Centres, and other sources of expertise on Canadian species. SSC members support the co-chairs in developing candidate lists of species to be considered for assessment, commissioning status reports for priority species, reviewing reports for scientific accuracy and completeness, and proposing to COSEWIC a status for each species. Currently, COSEWIC has 10 SSCs: Amphibians and Reptiles, Arthropods, Birds, Freshwater Fishes, Marine Fishes, Marine Mammals, Molluscs, Mosses and Lichens, Terrestrial Mammals and Vascular Plants.

For more information please see http://www.cosewic.gc.ca/eng/sct4/index_e.cfm

SSC meetings take place annually in different locations in Canada or by teleconference held once or twice a year. Observers are invited to attend and public information sessions may also take place.

Noteworthy activities undertaken by the Species Specialist Subcommittees include the following:

The Arthropods Specialist Subcommittee has received a final report on Crustaceans that contains a comprehensive list of crustacean species potentially at risk in Canada. This report will help the SSC prioritize species for assessment and prepare a candidate list. In addition, the list informs the SSC on whether there is sufficient information on crustaceans to warrant a separate Crustaceans Specialist Subcommittee or alternatively, consider a way the Arthropods Specialist Subcommittee might deal with these species. The report will be provided to COSEWIC at a future meeting.

The Molluscs Specialist Subcommittee is currently finalizing a project on *the Conservation Prioritization of the Ontario and Quebec Land Snail Faunas* to help the SSC prioritize those mollusc species for assessment.

The Terrestrial Mammals Specialist Subcommittee submitted a Special Report, "Designatable Units for Caribou (*Rangifer tarandus*) in Canada" to COSEWIC for its review and approval in November 2011. This report represented the Designatable Unit (DU) component of a status report on Caribou in Canada. In preparation for upcoming assessments (and reassessments) of this species, a clear and consistent scheme for identifying DUs was needed. Due to the complexity inherent in this species, the Terrestrial Mammals Subcommittee elected to separate the approval of the DUs from the status assessment process. COSEWIC voted to adopt the proposed DU structure for Caribou in Canada. The report was finalized and circulated in December, 2011.

The Vascular Plants Specialist Subcommittee is considering the preparation of a single status report that would include several Athabasca Sand Dune plants due for a review of classification. To determine if "bundling" these species is feasible, the Vascular Plants SC will commission a report that will detail threats and provide advice on whether plants co-occurring in the same habitat are exposed to the same threats and could be bundled for a review of their classifications.

COSEWIC is extremely grateful for the important work of the Species Specialist Subcommittee members who provide their time and expertise on a volunteer basis.

8. COSEWIC Operations and Procedures:

Section 19 of SARA states that COSEWIC "may make rules respecting the holding of meetings and the general conduct of its activities."

COSEWIC is guided in its activities by an Operations and Procedures Manual that is reviewed between each Wildlife Species Assessment Meeting by COSEWIC's Operations and Procedures Subcommittee, who recommend any necessary changes to the Committee for their approval. During this reporting period, the COSEWIC Operations and Procedures Manual was updated to reflect some minor changes in COSEWIC's procedures. The most notable changes are as follows:

- A new Chair of COSEWIC will assume the position of Chair effective September 1st (following the submission of the annual report to the Canadian Endangered Species Conservation Council) rather than immediately following the Spring Wildlife Species Assessment Meeting, when he/she was elected as Chair.
- A SSC Co-chair may now continue as a member of their respective SSC after the end of his/her term of office as Co-chair for a period of six months, subject to the approval of the Chair of COSEWIC.

9. Update on Progress of Working Groups:

a) Strategic Planning Working Group

COSEWIC routinely reviews its procedures to ensure that it operates with maximum efficiency and effectiveness. To that end, the committee re-established the Strategic Planning Working Group at its Spring 2011 Wildlife Species Assessment Meeting in anticipation of workload challenges over the next five years associated with the 10-year reviews of classifications required under Section 24 of SARA. The following initial recommendations of the Working Group were approved by COSEWIC at the Spring 2012 Wildlife Species Assessment Meeting:

- A response document template, designed to allow identification of substantive comments and responses will be provided for those reviewing status report drafts.

- Jurisdictional members will seek to provide only one set of comments at each review stage and try to ensure that substantive comments are provided at the draft stage. To the extent possible, jurisdictional members should also try to have the same individuals participate in the review process at each successive stage.
- The status report writer, in consultation with the responsible Co-chair, will provide a clear response to substantive review comments, specifying which (if any) recommended changes have not been made and why. The responsible Co-chair will use the response document to help determine whether the contract terms have been met and for approval of payments to the report writer. The response document will be made available to the jurisdictional member who provided the review comments.
- All members of COSEWIC and all SSC members will be given the opportunity to be "Surrogate Co-chairs" to shepherd one or more status reports subject to approval by SSC Co-chairs and Chair of COSEWIC.

The Working Group is currently working on further recommendations for approval by COSEWIC at an upcoming meeting.

b) Species Bundling Working Group

This working group continues to look at whether species co-occurring in the same ecosystem or those with similar threats or are inter-dependent etc. might have their status classifications reviewed at the same time. Bundling has been used for the reports on the Yucca Moth and Soapweed due to their interdependent relationship and also for the emergency assessment of the three bat species due to a common threat (white nose syndrome). A species bundling scenario is in development for plants found in the Athabasca Sand Dunes (as referred to in Section 7) and for freshwater fishes and mollusc species co-occurring within the same watershed.

c) Jurisdictional Members Duties Working Group

This working group produced a document that explicitly identified the duties of COSEWIC's jurisdictional members. The report was approved at the Spring 2012 Wildlife Species Assessment Meeting.

d) Press Release Working Group

This working group is active before and during each Wildlife Species Assessment Meeting on the production of each press release.

These procedural working groups are essential to ensuring COSEWICs operations and procedures are efficient, effective and clearly followed, thus maintaining the quality and consistency of COSEWIC status assessments and processes.

10. COSEWIC Communications:

Insofar as resources allow, COSEWIC and its Chairs over the years have made every effort to inform managers and the public on the work of the Committee.

During the current reporting period, COSEWIC released three press releases outlining the results of the Fall 2011 and the Spring 2012 Wildlife Species Assessment Meetings as well as announcing the emergency assessment of three bat species. These releases can be found on the COSEWIC website at www.cosewic.gc.ca.

Following each of the above-noted COSEWIC Species Assessment Meetings, the Chair of COSEWIC communicated with the Canadian Wildlife Directors Committee via teleconference, as well as with representatives of the Wildlife Management Boards and members of NACOSAR.

In addition, the Chair of COSEWIC, Dr. Marty Leonard attended the following meetings and gave presentations on the work of COSEWIC:
May 25, 2012 – Presentation to the Canadian Wildlife Directors Committee
June 5, 2012 – Meeting with the Minister of the Environment.

ITEM II – COSEWIC MEMBERSHIP

Section 16 of SARA states that (1) COSEWIC is to be composed of members appointed by the Minister after consultation with the Canadian Endangered Species Conservation Council and with any experts and expert bodies, such as the Royal Society of Canada, that the Minister considers to have relevant expertise. (2) Each member must have expertise drawn from a discipline such as conservation biology, population dynamics, taxonomy, systematics or genetics or from community knowledge or aboriginal traditional knowledge of the conservation of wildlife species. (3) The members are to be appointed to hold office for renewable terms of not more than four years.

1. Membership Changes:

For a current list of members on COSEWIC, please see the COSEWIC website.
http://www.cosewic.gc.ca/eng/sct6/sct6_4_e.cfm

Members from the Federal, Provincial or Territorial jurisdictions are recommended to the Federal Minister of the Environment by the jurisdiction. Species Specialist Subcommittee Co-chairs and Non-government Science Members are recommended to the Minister of the Environment by COSEWIC following an indepth review of applications.

The Co-chairs of the ATK Subcommittee are originally members of that Subcommittee, having been appointed as members by the Minister of the Environment following the recommendations of National Aboriginal Organizations. The ATK Subcommittee members elect its Co-chairs from its membership and recommend him/her to the Minister for appointment to that position.

Between January 18, 2012 and February 15, 2012, calls for membership were posted on the COSEWIC website for eight Species Specialist Subcommittee Co-chair positions and one Non-government Science Member position. Notifications of those calls were widely distributed. Selection Committees were struck, comprised of some members of COSEWIC and some members of relevant Species Specialist Subcommittees. Applications were scrutinized following procedures for member selection as set out in the Operations & Procedures Manual of COSEWIC and the Chairs of each Selection Committee distributed their reports in advance of the Spring 2012 Wildlife Species Assessment Meeting. The reports were discussed and qualified candidates were identified by COSEWIC. The names and CVs of the qualified individuals were provided to the Federal Minister of Environment and CESCC on 19 June 2012, identifying the top recommended candidates.

2. Election – Chair of COSEWIC:

Section 19 of SARA states that "COSEWIC may make rules respecting the holding of meetings and the general conduct of its activities, including rules respecting (a) the selection of persons to chair its meetings; "

COSEWIC re-elected Dr. Marty Leonard for a further term of office as Chair of COSEWIC for the period May 4, 2012 to August 31, 2014.

ITEM III – WILDLIFE SPECIES ASSESSMENTS

In accordance with Section 25(1) of SARA when COSEWIC completes an assessment of the status of a wildlife species, it must provide the Minister and the Canadian Endangered Species Conservation Council with a copy of the assessment and the reasons for it. A copy of the assessment must also be included on the public registry.

Wildlife Species assessed since the last reporting indicating status assigned, reasons for designation (including uncertainties if applicable) and COSEWIC criteria with alphanumeric codes is provided.

See Appendix I

The status reports are available in English and French on the Public Registry at the following address: http://www.sararegistry.gc.ca/

ITEM IV – WILDIFE SPECIES ASSESSED BY COSEWIC SINCE ITS INCEPTION

In accordance with Section 25(2) of SARA, COSEWIC must annually prepare a complete list of every wildlife species it has assessed since the coming into force of that section and a copy of that list must be included in the public registry.

The Canadian Species at Risk publication is available on the Public Registry http://www.sararegistry.gc.ca

It includes all wildlife species assessed by COSEWIC since its inception up to and including April, 2011. An updated version is currently in production.

APPENDICES

1 – Wildlife Species Assessment Results
2 – Emergency Assessment Results

APPENDIX I

COSEWIC Wildlife Species Assessments (detailed version), November 2011

Results are grouped by taxon and then by status category. The range of occurrence in Canada (by province, territory or ocean) and history of status designation are provided for each wildlife species.

Mammals

Black-tailed Prairie Dog ***Cynomys ludovicianus*** **Threatened**
Assessment Criteria D2

Reason for Designation
This small mammal is restricted to a relatively small population in southern Saskatchewan. The change in status from Special Concern to Threatened is based mainly on the threat of increased drought, and sylvatic plague, both of which would be expected to cause significant population declines if they occur frequently. Drought events are predicted to increase in frequency due to a changing climate. Sylvatic plague was first recorded in 2010. Although the Canadian population is in a protected area, it exists within a small area, and is isolated from other populations, all of which are located in the United States.

Range SK

Status History
Designated Special Concern in April 1978. Status re-examined and confirmed in April 1988, April 1999 and November 2000. Status re-examined and designated Threatened in November 2011.

Collared Pika ***Ochotona collaris*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This small rabbit-relative is a Beringian relict that is restricted to talus slopes in alpine areas in northern west British Columbia, Yukon, and Northwest Territories. This region comprises over half the global range of this species, and is witnessing climate-driven shifts in habitat, temperature, and precipitation at faster rates than elsewhere in Canada. A demonstrated sensitivity to climate variability, coupled with poor dispersal ability and the naturally fragmented nature of its populations, heightens the vulnerability of this small mammal to climate change. The species is well-studied in a very limited portion of its range, but baseline information on population trends at the range level, and a clear understanding of the extent and severity of climate impacts to this species and its habitat in the coming decades is limited. However, the best available information suggests that this species may be particularly sensitive to a changing climate, including concomitant increases in precipitation variability, leading to reductions in habitat availability. The potential of negative impacts of climate change to the persistence of this species over the long term is substantial.

Range YT NT BC

Status History
Designated Special Concern in November 2011.

Birds

Yellow-breasted Chat *auricollis* subspecies — ***Icteria virens auricollis*** — **Endangered**

Southern Mountain population

Assessment Criteria C2a(ii)

Reason for Designation
This subspecies is a shrub-thicket specialist that occurs at the northern edge of its range in Canada. The small population, which is restricted to the Southern Mountain Ecological Area in British Columbia, is localized to a particular type of riparian habitat. A number of threats have been identified as serious concerns, including cattle tramping of rose thickets, road maintenance and urbanization, agricultural and potential hydro-electric development of the Similkameen River.

Range BC

Status History
The Southern Mountain population of the *auricollis* subspecies was designated Threatened in April 1994. Status re-examined and designated Endangered in November 2000 and November 2011.

Yellow-breasted Chat *virens* subspecies — ***Icteria virens virens*** — **Endangered**

Assessment Criteria C2a(i,ii); D1

Reason for Designation
This subspecies is a shrub-thicket specialist that occurs at the northern edge of its range in Canada. Its population in southern Ontario is localized and very small. Since the last status report was produced, declines have occurred in the Ontario population, owing to habitat loss. The potential for rescue effect has also been dramatically reduced, because population declines are evident across most of the northeastern range of this subspecies.

Range ON

Status History
Designated Special Concern in April 1994. Status re-examined and confirmed in November 2000. Status re-examined and designated Endangered in November 2011.

Yellow-breasted Chat *auricollis* subspecies — ***Icteria virens auricollis*** — **Not at Risk**

Prairie population

Assessment Criteria not applicable

Reason for Designation
This subspecies is a shrub-thicket specialist that occurs at the northern edge of its range in Canada. The discrete population that occurs in the Prairie Ecological Area is localized to riparian systems and is relatively small. However, the population appears to be stable and potentially increasing. Few threats have been identified as serious concerns.

Range AB SK

Status History
The Prairie population of the *auricollis* subspecies was designated Not at Risk in April 1994, November 2000, and November 2011.

Amphibians

Coastal Tailed Frog ***Ascaphus truei*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This unusual frog of an ancient lineage has a scattered distribution in western British Columbia, where it occupies cool, clear, fast-flowing mountain streams and adjacent older forest. Habitats continue to be lost and degraded as a result of forestry and other human activities that occur throughout much of its Canadian distribution. Siltation of breeding streams and loss of older forest cover associated with resource use are main threats. Threats identified in the previous assessment in 2000 continue to degrade and fragment habitats, and new threats, such as run-of-river independent hydropower projects, have the potential for rapid and widespread increase throughout the species' Canadian range. Specialized habitat requirements, life history characteristics that include low reproductive potential, and patchy distribution make the frogs particularly vulnerable to human activities and climate change.

Range BC

Status History
Designated Special Concern in May 2000. Status re-examined and confirmed in November 2011.

Fishes

North Pacific Spiny Dogfish ***Squalus suckleyi*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This small shark is widely distributed in the north Pacific throughout the shelf waters of western Canada. An average of six pups are born every two years; the gestation period of 18-24 months is one of the longest known for any vertebrate, and the age of female sexual maturity (35 years) is one of the oldest. The species is subject to both targeted and bycatch fishing mortality. The species remains relatively abundant in Canadian waters, but low fecundity, long generation time (51 years), uncertainty regarding trends in abundance of mature individuals, reduction in size composition, and demonstrated vulnerability to overfishing are causes for concern.

Range Pacific Ocean

Status History
Designated Special Concern in November 2011.

Atlantic Halibut ***Hippoglossus hippoglossus*** **Not at Risk**
Assessment Criteria not applicable

Reason for Designation
Widely distributed in Atlantic Canada, from the Labrador Shelf to Georges Bank and the Gulf of Maine, this species attains a very large maximum size (3 m) and has a relatively long generation time (greater than 21 yr). Abundance in Canada is probably low relative to historical levels due to large fishery removals in the late 1880s and early 1900s. Trawl surveys provide the only long-term abundance indices but provide limited information on mature individuals, which can avoid this gear. Longline indices better sample mature individuals, but time series are relatively short. Since the 1970s, abundance indices on the Grand Banks and Labrador Shelf declined, but have increased since 2002. Abundance indices show increases, particularly since the 1990s, on the Scotian Shelf and in the Gulf of St. Lawrence. Fisheries (directed and bycatch) were essentially unrestricted prior to the 1980s. Management measures since then include catch limits in most areas and a requirement to release small individuals, but catch limits have been exceeded in the past and minimum size is below size at maturity. However, a recent analysis of the Scotian Shelf/Southern Grand Banks population indicates that the population is productive, abundance is above the level which would give maximum sustainable yield, and fishing mortality is below the level of a maximum sustainable yield.

Range Atlantic Ocean

Status History
Designated Not at Risk in November 2011.

Arthropods

American Burying Beetle ***Nicrophorus americanus*** **Extirpated**
Assessment Criteria not applicable

Reason for Designation
There is sufficient information to document that no individuals of the wildlife species remain alive in Canada. This includes that it: (1) is a large distinctive and conspicuous insect not seen for 39 generations; (2) has not been seen despite a tenfold increase in the number of field entomologists and an estimated 300,000 general trap nights at which at least some should have resulted in capture of this species, as well as studies of carrion-feeding beetles that did not reveal it; (3) comes to lights yet still not seen in thousands of light traps; and (4) a recent directed search in the general area where last seen 60 and 39 years ago that failed to find this species.

Range ON QC

Status History
Designated Extirpated in November 2011.

Okanagan Efferia ***Efferia okanagana*** **Endangered**
Assessment Criteria B2ab(iii)

Reason for Designation
This Canadian endemic is known from only five locations within a very small area of south central British Columbia. The species' grassland habitat is limited and continues to be degraded. Threats include introduction and spread of invasive species, changing fire regimes, pesticide drift and unrestricted ATV use.

Range BC

Status History
Designated Endangered in November 2011.

Molluscs

Snuffbox ***Epioblasma triquetra*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This small, freshwater mussel is currently found in two rivers in southern Ontario; another population may still survive in the Thames River where one fresh shell was found in 1998. The original COSEWIC assessment (2001) concluded that it had been lost from most of its Canadian range and was confined to the Sydenham River but live mussels from a reproducing population were subsequently found in the Ausable River beginning in 2006. The two remaining populations are in areas of intensive farming and subject to siltation and pollution with siltation being particularly problematic. Invasive Zebra Mussels have rendered much of the historical habitat unsuitable. An invasive fish species, the Round Goby, may pose a new threat by competing with the mussel's two known larval host fishes and by eating juvenile mussels.

Range ON

Status History
Designated Endangered in May 2001. Status re-examined and confirmed in November 2011.

Vascular Plants

Bearded Owl-clover ***Triphysaria versicolor*** **Endangered**

Assessment Criteria B1b(iii)c(iv)+2b(iii)c(iv)

Reason for Designation
This small hemiparasitic annual plant is known from vernal pools and seeps in the endangered Garry Oak ecosystems of southern Vancouver Island. Its small range, fluctuations in number of mature individuals and few locations coupled with destruction of individuals and degradation of habitat through recreational use, grazing by introduced Canada Geese, competition from invasive plant species, and residential development put it at on-going risk.

Range BC

Status History
Designated Endangered in April 1998. Status re-examined and confirmed in May 2000 and November 2011.

Bluehearts ***Buchnera americana*** **Endangered**

Assessment Criteria B1ab(ii,iii,iv)+2ab(ii,iii,iv)

Reason for Designation
A hemiparasitic herbaceous plant which grows in three small populations within the Great Lakes sand dunes habitat in southwestern Ontario. Its small population size and threats associated with water-level changes, disruption of natural process including fire suppression, recreational activities, and invasive plants places the species at on-going risk.

Range ON

Status History
Designated Threatened in April 1985. Status re-examined and designated Endangered in April 1998. Status re-examined and confirmed in May 2000 and November 2011.

False Hop Sedge ***Carex lupuliformis*** **Endangered**

Assessment Criteria B2ab(ii,iii,iv,v); C2a(i); D1

Reason for Designation
In Canada, this rare sedge is found in southern Ontario and Quebec where fewer than 250 mature plants have been found. There have been substantial historical population losses attributed to residential development and other forms of land use. Continued declines are attributed to late season flooding, land drainage, invasive alien species, recreation, erosion, garbage deposition, water regime regulation, and residential and urban development. Recovery efforts have included re-introduction at three sites in Quebec.

Range ON QC

Status History
Designated Threatened in April 1997. Status re-examined and designated Endangered in May 2000 and November 2011.

Heart-leaved Plantain ***Plantago cordata*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
In Canada, only two populations of this semi-aquatic species are known both in undisturbed wet forest patches of the Carolinian zone of southwestern Ontario. The species has declined throughout its range, as a result of deterioration or loss of the clear, shallow streams and seepages in which it occurs. The small range and specific habitat requirements of this species make it vulnerable to declines in habitat quality. The main threats include timber harvesting, agricultural runoff, alteration to riparian habitats, and other activities that contribute to eutrophication or siltation of the aquatic habitat.

Range ON

Status History
Designated Endangered in April 1985. Status re-examined and confirmed Endangered in April 1998, May 2000, and November 2011.

Hoary Mountain-mint ***Pycnanthemum incanum*** **Endangered**
Assessment Criteria B1ab(iii,iv)+2ab(iii,iv)

Reason for Designation
This perennial plant has a historically small distribution in Canada, where it is known to occur in just two populations along the Hamilton bluffs in Ontario. Its highly specific habitat, which is limited to a small shoreline area of the bluffs, makes this species especially vulnerable. The main threats to its persistence are the encroachment of invasive species, the loss of habitat to erosion and fire suppression, which contributes to succession to unsuitable habitat types.

Range ON

Status History
Designated Endangered in April 1986. Status re-examined and confirmed Endangered in April 1998, May 2000, and November 2011.

Large Whorled Pogonia ***Isotria verticillata*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii); D1

Reason for Designation
This orchid is known historically from only 3 sites in Ontario, but it has not been seen since 1996 despite searches at two of the three previously known sites. The species requires rich, deciduous or mixed, moist forest on sandy soil with abundant humus; this habitat continues to decline in quality due to trampling and exotic plants and earthworms. It is possible that this species may still be extant in Canada since many orchids are known to have long dormancy periods and often occur in very low numbers.

Range ON

Status History
Designated Endangered in April 1986. Status re-examined and confirmed Endangered in April 1998, May 2000, and November 2011.

Yukon Draba ***Draba yukonensis*** **Endangered**
Assessment Criteria B1ab(iii)c(iv)+2ab(iii)c(iv)

Reason for Designation
This small herbaceous mustard is limited globally to one meadow complex in southwestern Yukon; it is found nowhere else on Earth. The meadow complex is under threat from industrial activities, nearby human habitation, invasive species, and trampling by humans and forest encroachment. Human use of the meadows is projected to increase, and encroachment by woody species due to natural succession is causing suitable habitat to decline.

Range YT

Status History
Designated Endangered in November 2011.

Eastern Baccharis ***Baccharis halimifolia*** **Threatened**
Assessment Criteria D2

Reason for Designation
The species is an Atlantic Coastal Plain Flora species. A rare Canadian disjunct shrub restricted to very specific salt marsh habitat in southern Nova Scotia. Its coastal habitat is declining due to increasing shoreline development. Further, climate change effects, including rising sea level and increasing and more frequent storm surges, will cause habitat loss and degradation as well as impact individuals over the next few decades.

Range NS

Status History
Designated Threatened in November 2011.

Buffalograss ***Bouteloua dactyloides*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation

This grass occurs in limited areas of remnant short-grass prairie in southern Saskatchewan and Manitoba. Threats to this species include coal strip mining, invasive alien plants and overgrowth by woody vegetation and high grass that were once controlled by bison grazing and fire. However, recent survey efforts have increased the known number of populations and it no longer qualifies as a threatened species.

Range SK MB

Status History
Designated Special Concern in April 1998. Status re-examined and designated Threatened in November 2001. Status re-examined and designated Special Concern in November 2011.

Hairy Prairie-clover ***Dalea villosa*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
A perennial, herbaceous legume that inhabits sand dune landscapes within the prairies of south-central Saskatchewan and south-western Manitoba. Threats to the extent and quality of habitat continue, including a lack of fire allowing encroachment of competing vegetation, invasive alien plant species, recreational traffic, sand extraction as well as a general decline in open sandy habitat. However, a larger population size is now known due to greatly increased survey effort, and as a result the level of risk is now thought to be much reduced.

Range SK MB

Status History
Designated Threatened in April 1998. Status re-examined and confirmed in May 2000. Status re-examined and designated Special Concern in November 2011.

Mosses

Haller's Apple Moss ***Bartramia halleriana*** **Threatened**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v); C2a(i)

Reason for Designation
In North America, this moss is restricted to Canada, within a limited area in the Rocky Mountains of Alberta and adjacent British Columbia. The species is a habitat specialist, restricted to non-calcareous cliffs or talus in low elevation forests with high humidity, and it has a low dispersal ability. Only nine locations are known for the species; two of the locations represent greater than 60% of the total number of mature individuals and are threatened by hydroelectric developments. In addition, the species is exposed to a number of threats at most sites, including habitat disturbances from fire, forest harvesting, and Mountain Pine Beetle infestation. The moss has been extirpated at one location.

Range BC AB

Status History
Designated Threatened in November 2001. Status re-examined and confirmed in November 2011.

Lichens

Ghost Antler Lichen ***Pseudevernia cladonia*** **Not at Risk**
Assessment Criteria not applicable

Reason for Designation
This lichen occurs predominantly in montane cloud forests in Quebec and in coastal fog forests in New Brunswick and Nova Scotia. In both the coastal and montane situations the species is found in humid spruce/fir forest where it reproduces by fragmentation and very seldom by sexual reproduction. Since the last status report, many new locations have been found in all three provinces, recent surveys estimate more than three million individuals, at 41 locations. However, in the long term, climate change and anthropogenic threats may reduce populations of this lichen.

Range QC NB NS

Status History
Designated Special Concern in April 2006. Status re-examined and designated Not at Risk in November 2011.

25/11/2011

COSEWIC Wildlife Species Assessments (detailed version), May 2012*

Results are grouped by taxon and then by status category. The range of occurrence in Canada (by province, territory or ocean) and history of status designation are provided for each wildlife species.

Mammals

Grizzly Bear ***Ursus arctos*** **Extinct**

Ungava population

Assessment Criteria not applicable

Reason for Designation

This large bear existed as a relict population on the Ungava peninsula of northern Quebec and Labrador until the 20th century. It has not been documented since at least 1948, and is unlikely to be replaced through natural dispersal.

Range QC NL

Status History

The species was considered a single unit and designated Not at Risk in April 1979. Split into two populations in April 1991 (Prairie population and Northwestern population). In May 2012, the entire species was re-examined and split into two populations (Western and Ungava populations). The newly-defined Ungava population was designated Extinct in May 2012.

Blue Whale ***Balaenoptera musculus*** **Endangered**

Atlantic population

Assessment Criteria A2abd; D1

Reason for Designation

Whaling reduced the original population of this species. The population size is unknown but there are likely fewer than 250 mature individuals in Canada. There are also strong indications of a low calving rate and a low rate of recruitment into the population. The known causes of human-induced mortality of this species in Canada and elsewhere are ship strikes and entanglements in fishing gear. The species may also be vulnerable to disturbances due to increased noise in the marine environment and to changes in the abundance of its prey (zooplankton) through, for example, long-term changes in the climate.

Range Atlantic Ocean

Status History

The species was considered a single unit and designated Special Concern in April 1983. Split into two populations in May 2002. The Atlantic population was designated Endangered in May 2002. Status re-examined and confirmed in May 2012.

Blue Whale ***Balaenoptera musculus*** **Endangered**

Pacific population

Assessment Criteria A2abd; D1

Reason for Designation

Individuals off the coast of British Columbia are likely part of a northeastern Pacific population that was depleted by whaling. The infrequency of observations (visual and acoustic) suggests their numbers are currently very low (significantly less than 250 mature individuals). Threats to this species along the coast of British Columbia are poorly known, but may include ship strikes, anthropogenic noise, entanglement in fishing gear, and long-term changes in climate (which could affect the abundance of their zooplankton prey).

Range Pacific Ocean

Status History

The species was considered a single unit and designated Special Concern in April 1983. Split into two populations in May 2002. The Pacific population was designated Endangered in May 2002. Status re-examined and confirmed in May 2012.

Grizzly Bear ***Ursus arctos*** **Special Concern**

Western population

Assessment Criteria not applicable

Reason for Designation

The global distribution of this large-bodied bear has declined by over 50% since the 1800s, with western Canada representing a significant core of the current North American range. A habitat generalist, its distribution and relative abundance in the absence of humans is largely driven by habitat productivity and seasonality. It is highly sensitive to human disturbance and is subject to high mortality risk in areas of human activity and where roads create access. Population estimates in much of the range are highly uncertain; the Canadian population is estimated at 26,000, but the number of mature individuals is uncertain and could be close to 10,000. While there is no evidence of a decline in the overall population during the past 20 years and increasing numbers of records indicating some range expansion in the north, a number of populations in the southern extent of its range in Alberta and southern BC are known to be declining and there are concerns about unsustainable mortality rates there and in parts of Yukon. There is strong evidence of genetic fragmentation in the southern parts of its range where some populations are increasingly isolated and subject to demographic stochasticity. Their poor condition in some parts of the range, combined with their naturally low reproductive rates and increasing pressures of resource extraction and cumulative impacts in currently intact parts of the range, heighten concern for this species if such pressures are not successfully reversed.

Range YT NT NU BC AB SK MB

Status History

The species was considered a single unit and designated Not at Risk in April 1979. Split into two populations in April 1991 (Prairie population and Northwestern population). The Prairie population was designated Extirpated in April 1991. Status re-examined and confirmed in May 2000 and in May 2002. The Northwestern population was designated Special Concern in April 1991 and confirmed in May 2002. In May 2012, the entire species was re-examined and the Prairie and Northwestern populations were considered a single unit. This newly-defined Western population was designated Special Concern in May 2012.

Mountain Beaver ***Aplodontia rufa*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
The range of this species in Canada has contracted by 29% in the last 50 years and expansion into new habitat is constrained by large rivers. Within its range, habitat loss from urban development continues, and soil compaction caused by heavy machinery limits the use of otherwise suitable habitat. Climate change may further affect this species because it requires humid microclimates and low ambient temperatures. Rescue effect potential is limited by the short dispersal rates of the species and areas of unsuitable habitat along the border with the United States.

Range BC

Status History
Designated Not at Risk in April 1984. Status re-examined and designated Special Concern in April 1999. Status re-examined and confirmed in November 2001 and May 2012.

Birds

Marbled Murrelet ***Brachyramphus marmoratus*** **Threatened**
Assessment Criteria A4c

Reason for Designation
This small seabird is largely dependent on old growth coastal forests in British Columbia for nesting. Habitat loss has been estimated at over 20% for the past three generations. Future threats including ongoing habitat loss, coupled with increased threats from proposed shipping routes in the core of the species' range, increased fragmentation from a variety of proposed and recently initiated developments, fisheries bycatch and changing at sea conditions have resulted in projected population losses exceeding 30% over the next three generations.

Range BC

Status History
Designated Threatened in April 1990. Status re-examined and confirmed in November 2000 and May 2012.

Western Screech-Owl *kennicottii* subspecies ***Megascops kennicottii kennicottii*** **Threatened**
Assessment Criteria C1

Reason for Designation
This small owl has shown serious declines in the southern part of its range in Metro Vancouver, Victoria and the Gulf Islands areas, where it has nearly disappeared over the last 10 to 15 years. Based on observed declines reported in Alaska, it has likely also declined in the northern part of its range, but the magnitude of the decline is unknown. The population is thought to be relatively small (less than 10,000 adults) and the owls face ongoing threats including predation from newly established populations of Barred Owls, and the removal of dead trees and snags, which serve as nest sites and roosts.

Range BC

Status History
Species considered in April 1995 and placed in the Data Deficient category. It was split according to subspecies in May 2002. The *kennicottii* subspecies was designated Special Concern in May 2002. Status re-examined and designated Threatened in May 2012.

Western Screech-Owl *macfarlanei* subspecies ***Megascops kennicottii macfarlanei*** **Threatened**

Assessment Criteria D1

Reason for Designation
The Canadian population of this owl is small, numbering between 350 and 500 adults, but is larger than previously estimated based on recent survey effort and has a much wider range in southern British Columbia than previously thought. The population has been apparently stable over the last 10 years, but faces ongoing threats especially from the loss of mature trees needed for nesting and roost sites. The loss of these trees is associated with urban and agricultural developments and degradation of riparian woodlands.

Range BC

Status History
Species considered in April 1995 and placed in the Data Deficient category. It was split according to subspecies in May 2002. The *macfarlanei* subspecies was designated Endangered in May 2002. Status re-examined and designated Threatened in May 2012.

Baird's Sparrow ***Ammodramus bairdii*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
Canada supports about 60% of the breeding population of this prairie songbird. The species was common and perhaps even abundant historically. It suffered declines stemming from agricultural conversion of its native prairie habitat across the Great Plains. There is good evidence for population declines in recent decades, but the species is difficult to monitor effectively, and information on short-term population trends is relatively weak. Loss and degradation of its specialized grassland habitat, on both its breeding and wintering grounds, are believed to pose the most significant threats. Evidence of long-term population declines, coupled with ongoing threats to habitat, are the primary reasons for elevating the status of this species from Not at Risk to Special Concern.

Range AB SK MB

Status History
Designated Threatened in April 1989. Status re-examined and designated Not at Risk in April 1996. Status re-examined and designated Special Concern in May 2012.

Buff-breasted Sandpiper ***Tryngites subruficollis*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
The Canadian Arctic supports about 87% of the North American breeding range of this shorebird, and about 75% of its global population. The species was once common and perhaps even abundant historically, but it suffered severe declines stemming from intensive market hunting in the late 1800s and early 1900s. By the 1920s, it was thought to be at the brink of extinction. Its population has grown since hunting was banned in North America, but numbers remain much lower than those before hunting began. There is evidence for population decline in recent decades, and many conservation organizations consider the species to be of concern throughout its range. However, this species is difficult to monitor effectively, and data necessary to estimate population trends are currently lacking. Outside the breeding period, loss and degradation of its specialized grassland habitat, both on its wintering grounds in South America and along its migration routes, are believed to pose the most significant threats.

Range YT NT NU BC AB SK MB ON QC

Status History
Designated Special Concern in May 2012.

Hooded Warbler ***Setophaga citrina*** **Not at Risk**
Assessment Criteria not applicable

Reason for Designation
In Canada, the range and abundance of this forest-nesting species have increased substantially since the species was last assessed. The species has also experienced a significant long-term increase in abundance in the core of its range in the United States, so there is an outside source for rescue. However, habitat degradation at breeding sites and habitat loss and degradation at migration stopover sites and on the wintering grounds are potential threats.

Range ON

Status History
Designated Threatened in April 1994. Status re-examined and confirmed in November 2000. Status re-examined and designated Not at Risk in May 2012.

Reptiles

Pacific Gopher Snake ***Pituophis catenifer catenifer*** **Extirpated**
Assessment Criteria not applicable

Reason for Designation
This large snake, found in extreme southwestern British Columbia, has not been observed in the Canadian wild in more than 50 years.

Range BC

Status History
Designated Extirpated in May 2002. Status re-examined and confirmed in May 2012.

Pacific Pond Turtle ***Actinemys marmorata*** **Extirpated**
Assessment Criteria not applicable

Reason for Designation
This species has not been observed in the Canadian wild in over 50 years.

Range BC

Status History
Designated Extirpated in May 2002. Status re-examined and confirmed in May 2012.

Blue Racer ***Coluber constrictor foxii*** **Endangered**
Assessment Criteria B1ab(iii,v)+2ab(iii,v); C2a(i,ii); D1

Reason for Designation
This large snake has an extremely restricted distribution and in Canada, occurs only on Pelee Island in southern Ontario. Despite efforts to protect dwindling habitat, it remains at low numbers. Threats include loss and fragmentation of habitat, increased road mortality and persecution.

Range ON

Status History
Designated Endangered in April 1991. Status re-examined and confirmed in May 2002 and May 2012.

Leatherback Sea Turtle ***Dermochelys coriacea*** **Endangered**
Pacific population
Assessment Criteria A2abd

Reason for Designation
The Pacific population of this species has collapsed by over 90% in the last generation. Continuing threats include fisheries bycatch, marine debris, coastal and offshore resource development, illegal harvest of eggs and turtles, and climate change.

Range Pacific Ocean

Status History
The species was considered a single unit and designated Endangered in April 1981. Status re-examined and confirmed in May 2001. Split into two populations in May 2012. The Pacific population was designated Endangered in May 2012.

Leatherback Sea Turtle ***Dermochelys coriacea*** **Endangered**
Atlantic population
Assessment Criteria A2abd+4abd

Reason for Designation
Globally, this species is estimated to have declined by more than 70%. In the Atlantic, this species continues to be impacted by fisheries bycatch, coastal and offshore resource development, marine pollution, poaching of eggs, changes to nesting beaches and climate change. Canadian waters provide an important foraging area for these turtles. There they are threatened by entanglement in longline and fixed fishing gear.

Range Atlantic Ocean

Status History
The species was considered a single unit and designated Endangered in April 1981. Status re-examined and confirmed in May 2001. Split into two populations in May 2012. The Atlantic population was designated Endangered in May 2012.

Amphibians

Northern Dusky Salamander ***Desmognathus fuscus*** **Endangered**
Carolinian population
Assessment Criteria B1ab(iii)+2ab(iii); D1

Reason for Designation
This species is restricted to one small creek sustained by groundwater seepage on the steep slope of a gorge vulnerable to erosion, atmospheric deposition of pollutants and habitat acidification. The population is small and susceptible to ecological, demographic and genetic stochasticity.

Range ON

Status History
The species was considered a single unit and designated Not at Risk in April 1999. Split into two populations in May 2012. The Carolinian population was designated Endangered in May 2012.

Northern Dusky Salamander ***Desmognathus fuscus*** **Not at Risk**
Quebec / New Brunswick population
Assessment Criteria not applicable

Reason for Designation
The species remains widespread in Quebec and New Brunswick and, with additional search effort, many new sites have been discovered in recent years. Although there have been local extirpations and there are numerous ongoing threats, the species does not seem to be declining significantly, or at risk.

Range QC NB

Status History
The species was considered a single unit and designated Not at Risk in April 1999. Split into two populations in May 2012. The Quebec / New Brunswick population was designated Not at Risk in May 2012.

Fishes

Enos Lake Benthic Threespine Stickleback ***Gasterosteus aculeatus*** **Endangered**
Assessment Criteria A2ace; B1ab(iii,v)+2ab(iii,v); C2a(ii)

Reason for Designation
This small fish occurs in a single lake in south coastal British Columbia where it has now formed a hybrid swarm with a co-existing stickleback. Although it is possible that a small number of genetically-pure fish still exist in the lake, the ongoing presence of an invasive crayfish, and associated habitat degradation, continue to place this species at a high risk of extinction.

Range BC

Status History
Original designation (including both Benthic and Limnetic species) was Threatened in April 1988. Split into two species when re-examined in November 2002 and the Enos Lake Benthic Threespine Stickleback was designated Endangered. Status re-examined and confirmed in May 2012.

Enos Lake Limnetic Threespine Stickleback ***Gasterosteus aculeatus*** **Endangered**
Assessment Criteria A2ace; B1ab(iii,v)+2ab(iii,v); C2a(ii)

Reason for Designation
This small fish occurs in a single lake in south coastal British Columbia where it has now formed a hybrid swarm with a co-existing stickleback. Although it is possible that a small number of genetically-pure fish still exist in the lake, the ongoing presence of an invasive crayfish, and associated habitat degradation, continue to place this species at a high risk of extinction.

Range BC

Status History
Original designation (including both Benthic and Limnetic species) was Threatened in April 1988. Split into two species when re-examined in November 2002 and the Enos Lake Limnetic Threespine Stickleback was designated Endangered. Status re-examined and confirmed in May 2012.

Northern Madtom ***Noturus stigmosus*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This species is one of the rarest freshwater fish in Ontario, being found at only four locations in river systems in southwestern Ontario. Substantial and ongoing threats in these rivers include siltation, turbidity, exotic species and toxic compounds, which have all been assessed as high levels of concern. Although there may be some localized improvement in habitat, overall there is an inferred continuing decline in habitat quality and substantial ongoing threats throughout its range.

Range ON

Status History
Species considered in April 1993 and placed in the Data Deficient category. Re-examined in April 1998 and designated Special Concern. Status re-examined and designated Endangered in November 2002 and May 2012.

Silver Chub ***Macrhybopsis storeriana*** **Endangered**
Great Lakes - Upper St. Lawrence populations
Assessment Criteria A2bce; B2ab(v)

Reason for Designation
This small-bodied fish is native to the middle Great Lakes and has a small distribution range in Canada. Its abundance has declined substantially over the past ten years. Moreover, the longest consecutive time series of lowest abundance has been observed over the last five years. The species is assessed at high risk of extirpation from several threats including habitat degradation, competition with invasive exotic species, and climate change. This species is considered at risk in several border states, including Michigan and New York.

Range ON

Status History
The species was considered a single unit and designated Special Concern in April 1985. Status re-examined and confirmed in May 2001. Split into two populations in May 2012. The "Great Lakes - Upper St. Lawrence populations" unit was designated Endangered in May 2012.

Smooth Skate ***Malacoraja senta*** **Endangered**
Funk Island Deep population
Assessment Criteria A2bc

Reason for Designation
There have been steep declines in abundance of both adult and young individuals in this designatable unit (DU) since the early 1980s. While numbers of adults appear to have increased over the past five years, the overall abundance remains very low. These trends in abundance are matched by strong reductions in area of occupancy. There are no targeted fisheries for this species, and bycatches have been declining since the early 1980s. However, it has continued to decline even in areas with low trawling intensity.

Range NL Atlantic Ocean

Status History
Designated Endangered in May 2012.

American Eel ***Anguilla rostrata*** **Threatened**
Assessment Criteria A2b

Reason for Designation
This species is widespread in eastern Canada, but has experienced dramatic declines over a significant portion of its distribution (e.g., Lake Ontario and the upper St. Lawrence River). Although trends in abundance in other areas are highly variable, strong declines are apparent in several indices. Continuing habitat degradation, especially owing to dams and pollution, and existing fisheries in Canada and elsewhere may constrain recovery.

Range ON QC NB PE NS NL Atlantic Ocean

Status History
Designated Special Concern in April 2006. Status re-examined and designated Threatened in May 2012.

Plains Minnow ***Hybognathus placitus*** **Threatened**
Assessment Criteria D2

Reason for Designation
This small fish has a very limited distribution in Canada at only one or two locations, both of which are small streams subject to drought. The species requires long stretches of flowing water to complete its life cycle. Further threats to water supply from additional irrigation dams and excessive drought would increase risks to this species.

Range SK

Status History
Designated Threatened in May 2012.

Pugnose Minnow ***Opsopoeodus emiliae*** **Threatened**
Assessment Criteria B1ab(i,ii,iii)+2ab(i,ii,iii)

Reason for Designation
This fish is a small-bodied species with a restricted and declining distribution that inhabits river, stream and lake habitats. The species is threatened by habitat loss, habitat degradation from nutrient and sediment loading, climate change and several exotic species. The overall level of threat has been assessed as high.

Range ON

Status History
Designated Special Concern in April 1985. Status re-examined and confirmed in May 2000. Status re-examined and designated Threatened in May 2012.

Blackstripe Topminnow ***Fundulus notatus*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This small-bodied fish is found in a single river system across approximately ten locations in southwestern Ontario. Its habitat has been degraded owing to urbanization, industrialization, intensive agricultural activity, and removal of streamside vegetation. Although the species is relatively tolerant of low oxygen levels and high sediment loads, if its habitat quality declines further it could become threatened.

Range ON

Status History
Designated Special Concern in April 1985. Status re-examined and confirmed in May 2001 and May 2012.

Smooth Skate ***Malacoraja senta*** **Special Concern**

Laurentian-Scotian population

Assessment Criteria not applicable

Reason for Designation

This designatable unit (DU) historically accounts for 90% of the species' estimated abundance in Canada and 70% of the Canadian range. Trends vary among regions within this large DU, but overall numbers have likely been increasing in recent years. However, on the Scotian Shelf, which used to be the centre of abundance for this species, both abundance and area of occupancy have declined steeply since the 1970s, and numbers remain low. It is not clear what has caused the trends to differ among areas. There are no directed fisheries for this species, and bycatches have been low for the past decade in this DU. There have been recent increases in natural mortality of adults in the southern Gulf of St. Lawrence.

Range QC NB PE NS Atlantic Ocean

Status History

Designated Special Concern in May 2012.

Thorny Skate ***Amblyraja radiata*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation

These slow-growing, late-maturing fish have undergone severe population declines over the southern part of their distribution, including range contractions. The southern declines have continued in spite of a reduction in fishing mortality. In contrast, the abundance of mature individuals in the northern part of their range has been increasing, approaching abundance levels observed at the beginning of surveys (mid-1970s). Thus, while the species as a whole does not meet the criteria for a Threatened status, declines and range contractions in the south are causes for concern.

Range NU QC NB PE NS NL Arctic Ocean Atlantic Ocean

Status History

Designated Special Concern in May 2012.

Silver Chub ***Macrhybopsis storeriana*** **Not at Risk**

Saskatchewan - Nelson River populations

Assessment Criteria not applicable

Reason for Designation

This small-bodied fish inhabits rivers and lakes in the Saskatchewan-Nelson watershed. There is no evidence of decline in abundance or range, and recent sampling suggests that this is a widespread species, but one which is not particularly abundant anywhere in the watershed.

Range MB

Status History

The species was considered a single unit and designated Special Concern in April 1985. Status re-examined and confirmed in May 2001. Split into two populations in May 2012. The "Saskatchewan - Nelson River populations" unit was designated Not at Risk in May 2012.

Smooth Skate ***Malacoraja senta*** **Data Deficient**
Hopedale Channel population
Assessment Criteria not applicable

Reason for Designation
This designatable unit is at the northern limit of this species' range, and surveys here have been sporadic (14 surveys since 1977, not always complete). Although available information suggests that the extent of occurrence has fluctuated over time, with an increase since 1990, and that the number of mature individuals seems to have fluctuated without trend, perhaps increasing in recent years, inferences are hampered by the paucity of data and by changes in sampling gear. High data uncertainty therefore prevents status determination. There are no targeted fisheries for this species, and bycatches appear to have been low since the mid 1990s.

Range NL Atlantic Ocean

Status History
Species considered in May 2012 and placed in the Data Deficient category.

Smooth Skate ***Malacoraja senta*** **Data Deficient**
Nose of the Grand Bank population
Assessment Criteria not applicable

Reason for Designation
This designatable unit (DU) is a minor part (1.9%) of the global distribution of this species. Fish were encountered in only 11 of 37 years of surveys, with an average number of fish/year of 0.7. Too little is known to assess status in this DU, including abundance and area of occupancy.

Range NL Atlantic Ocean

Status History
Species considered in May 2012 and placed in the Data Deficient category.

Arthropods

Behr's Hairstreak ***Satyrium behrii*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Reason for Designation
This small butterfly is restricted to antelope-brush habitat in British Columbia, a habitat that has decreased considerably in extent in the past century and remains under threat due to land use change (conversion to viticulture, residential and commercial development) and the impact of fire. It rarely disperses much more than 120 m and persists in small, isolated fragments of habitat, which continue to decline in area and quality. Large annual fluctuations in population size, as documented for the largest Canadian population, increase the species' vulnerability and call into question its long term viability.

Range BC

Status History
Designated Threatened in November 2000. Status re-examined and designated Endangered in May 2012.

Island Blue ***Plebejus saepiolus insulanus*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This species has not been documented in the field since 1979. However, search effort is insufficient to conclude that the species is extinct. Any remaining populations in its historical range must occur within a very small distributional range and are likely in decline due to declining habitat quality from invasive plants.

Range BC

Status History
Designated Endangered in November 2000. Status re-examined and confirmed in May 2012.

Weidemeyer's Admiral ***Limenitis weidemeyerii*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This large butterfly has a small Canadian population and is restricted to valleys and prairie coulees of southern Alberta. The threat of invasive Russian Olive and Saltcedar that outcompete the butterfly's larval host plant is predicted to increase.

Range AB

Status History
Designated Special Concern in May 2000. Status re-examined and confirmed in May 2012.

Molluscs

Magnum Mantleslug ***Magnipelta mycophaga*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This large slug, up to 80 mm in length, is regionally endemic to the northern Columbia Basin in western North America. About half of the species' global range extends into southeastern British Columbia. It occurs in a number of widely separated habitat patches and is confined to cool, moist places in coniferous forests at mid to high elevations. While hundreds of sites have been searched for slugs and land snails within the range of this slug, mostly within the past decade, as of November 2010 there are only 13 records for it in Canada. Since the 1960s its habitat has become increasingly fragmented. The number and variety of threats including logging, recreational developments and activities, wildfire, and changes in moisture regimes caused by climate change increase the level of risk.

Range BC

Status History
Designated Special Concern in May 2012.

Vascular Plants

Tiny Cryptantha ***Cryptantha minima*** **Threatened**
Assessment Criteria B1b(iii)c(iv)+2b(iii)c(iv)

Reason for Designation
This small herbaceous annual plant is limited in Canada to a small area of grassland habitat in southeastern Alberta and adjacent southwestern Saskatchewan. Though a larger range and population size are now known due to greatly increased search effort, the species remains under threat from residential and industrial development, agricultural activities, altered hydrological regimes, and a lack of fire and grazing which allows encroachment of competing vegetation, such as invasive species. The species' extent and quality of habitat continue to decline and it is subject to extreme fluctuations in population size, which increases its vulnerability.

Range AB SK

Status History
Designated Endangered in April 1998. Status re-examined and confirmed in May 2000. Status re-examined and designated Threatened in May 2012.

Goldencrest ***Lophiola aurea*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
In Canada, this Atlantic Coastal Plain plant is found only in Nova Scotia at a few lake shores and wetlands. The Canadian population primarily reproduces vegetatively and is genetically distinct and geographically disjunct from the nearest populations in New Jersey 800 km to the south. Revisions to the COSEWIC assessment criteria since the species' last assessment account, in part, for the change in its risk status. Recent intensive surveys have also determined that the population is larger than previously thought. However, the species is subject to ongoing threats from development and habitat alteration.

Range NS

Status History
Designated Threatened in April 1987. Status re-examined and confirmed in April 1999 and in May 2000. Status re-examined and designated Special Concern in May 2012.

Mosses

Incurved Grizzled Moss ***Ptychomitrium incurvum*** **Extirpated**
Assessment Criteria not applicable

Reason for Designation
This small moss is widely distributed in the deciduous forests of eastern North America, with a frequency of occurrence that declines toward the northern portion of its range. In Canada, the only known record for the species is from the Carolinian zone of southern Ontario (Niagara Falls) in 1825. Despite considerable search effort in the region, the species has never been rediscovered.

Range ON

Status History
Designated Extirpated in November 2002. Status re-examined and confirmed in May 2012.

Margined Streamside Moss ***Scouleria marginata*** **Endangered**
Assessment Criteria D1

Reason for Designation
This large, showy moss occurs just above water's edge along small montane streams. A rare western North American endemic, it is known in Canada from a single occurrence in southern British Columbia. Although the species has not been found in recent surveys, it may be present in nearby watersheds.

Range BC

Status History
Designated Endangered in November 2002. Status re-examined and confirmed in May 2012.

Silver Hair Moss ***Fabronia pusilla*** **Endangered**
Assessment Criteria D1

Reason for Designation
This is a small species that grows among other mosses as an epiphyte on trees or on rock faces. In Canada, it is known from only one cliff in southwestern British Columbia. Although the species has not been found during recent surveys, the expanse of available habitat at the only known site, combined with the small stature of the moss, suggests that the species may still be present in Canada.

Range BC

Status History
Designated Endangered in November 2002. Status re-examined and confirmed in May 2012.

*The reports on Georgia Basin Bog Spider (*Ghaphosa snohomish*) and Mottled Duskywing (*Erynnis martialis*) were withdrawn to allow inclusion of recent information. It is anticipated that these wildlife species will be re-considered by COSEWIC in November 2012.

08/08/2012

APPENDIX II

Summaries

COSEWIC Emergency Assessments – February 2012

Tri-colored Bat

Scientific name
Perimyotis subflavus

Status
Endangered

Reason for designation
Most of the Canadian population of this species has recently been exposed to a fungal pathogen. Catastrophic declines of several species of bats and predicted functional extirpation (<1% of existing population) of Little Brown Myotis in the northeastern United States will very likely apply to the Canadian population of this species within 3 generations. Results for Little Brown Myotis are considered applicable to this species; massive mortality events recorded in New Brunswick in 2011, significant declines in Quebec and Ontario hibernacula, and evidence of flying bats in winter at numerous sites where White-nose Syndrome (WNS) is known. WNS recorded in 4 Canadian provinces and expanding at minimum rate of 200km/yr. For this species, 76% decline in northeastern U.S. hibernacula infected for 2 years and a 94% decline in a Canadian hibernaculum. Much of the Canadian population is likely already impacted and the remainder will be impacted within several years.

Occurrence
New Brunswick, Nova Scotia, Ontario, Quebec

Status history
Designated Endangered in an emergency assessment on February 3, 2012.

Little Brown Myotis

Scientific name
Myotis lucifugus

Status
Endangered

Reason for designation
Catastrophic declines and predicted functional extirpation (<1% of existing population) in the northeastern United States will very likely apply to the Canadian population of this species within 3 generations. There have been massive mortality events recorded in New Brunswick in 2011, significant declines in Quebec and Ontario hibernacula, and evidence of flying bats in winter at numerous sites where the White-nose Syndrome (WNS) is known. WNS recorded in 4 Canadian provinces and expanding at average rate range of 200-400km/yr, to date. If the spread of WNS continues at the current rate, the entire Canadian population would likely be impacted within 11-22 years.

Occurrence
Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon

Status history
Designated Endangered in an emergency assessment on February 3, 2012.

Northern Myotis

Scientific name
Myotis septentrionalis

Status
Endangered

Reason for designation
Catastrophic declines and predicted functional extirpation (<1% of existing population) in the northeastern United States will very likely apply to the Canadian population of this species within 2 to 3 generations. There have been massive mortality events recorded in New Brunswick in 2011, significant declines in Quebec and Ontario hibernacula, and evidence of flying bats in winter at numerous sites where White-nose Syndrome (WNS) is known. WNS is recorded in 4 Canadian provinces and expanding at 200-400 km/yr. If the spread of WNS continues at the current rate, the entire Canadian population would likely be impacted within 11-22 years.

Occurrence
Alberta, British Columbia, Manitoba, New Brunswick , Newfoundland and Labrador, Northwest Territories, Nova Scotia, Prince Edward Island, Ontario, Quebec, Saskatchewan, Yukon

Status history
Designated Endangered in an emergency assessment on February 3, 2012.